

THE FERRUGINOUS ROUGH-LEG, *ARCHIBUTEO FER-  
RUGINEUS* IN MONTANA.

BY E. S. CAMERON.

*Plates XIV-XVIII.*

## NESTING.

THIS splendid bird is undoubtedly the most powerful hawk met with in Montana, where it is usually called eagle, and its carrying power is remarkable as the sequel will show. It does no harm, but, on the contrary, wages unceasing warfare against such pests as prairie dogs (*Cynomys*), gophers (*Thomomys*), and meadow mice (*Arvicola*), and should therefore be universally protected; nevertheless it has unfortunately become very scarce, excepting in one or two favored localities where it is strictly preserved. Although a good deal has been written about the Ferruginous Rough-leg, as the hawk is called in the American Ornithologists' Union Check-list, I am not aware that it has hitherto been studied or photographed at the nest. It used to be abundant in Montana, as evidenced by the fact that Dr. J. A. Allen found it "next to *Falco sparverius*, the most common species of the Falconidae," and himself discovered several nests containing young. He continues: "The nest is often a very large bulky structure, sometimes three or four feet in diameter, built of coarse sticks, mixed with the ribs of antelopes and buffaloes. It is placed on the ground or rocks, usually near the summit of isolated buttes. The same nest is apparently occupied for a series of years and annually repaired."<sup>1</sup>

I have seen the eyrie of this species in many varied situations in Montana; such as trees, on pillars or ledges of rock, and the shoulders or summits of badland buttes. The female begins to lay at any time from the middle of April until the end of the first week in May, according to the season, and deposits two, three or

---

<sup>1</sup> Proceedings of the Boston Society of Natural History, Vol. XVII., June, 1874.

four handsome eggs of variable shade, but usually with rich blotches of umber brown on a creamy or greenish white ground. The eggs are half as large again as those of the Common American Buzzard *Buteo swainsoni*. The Ferruginous Rough-leg appears to incubate for about twenty-five days, but I have not been able to time her exactly. The young birds are full-fledged and leave the nest when about two months old but do not acquire the full adult plumage for four or five years. Their call for the parents is at first soft and low, (like the piping of young Golden Eagles), but develops into a pleasing whistle by the time they are ready to leave the nest. The hungry fledglings become very excited when they see one of their parents approaching, and have a parrot-like trick of working their heads and necks while snapping their beaks at the same time. If handled, they resent it with their bills as well as their feet, and, in my experience, are the only raptores to use the bill in defending themselves. The Ferruginous Rough-leg is very fond of standing upon one leg, keeping the other concealed among the feathers, and is so depicted by Ridgway in Fisher's 'Hawks and Owls of The United States.' As Dr. Fisher well remarks (*op. cit.* p. 92, 93), "When this hawk is hunting its flight appears labored and heavy, but when circling in the air its flight is graceful and resembles closely that of the Golden Eagle."

My own endeavors to observe Ferruginous Rough-legs at the nest were to a great extent frustrated by outside interference. In 1899, a pair nested upon the apex of a badland butte near my ranch, and the female was sitting hard upon two eggs during the first week in May. The nest appeared to be in an unfavorable situation, exposed to every wind, was lined with dried grass, and composed of sage brush stalks, creeping cedar, and cedar drift-wood sticks. The latter were the largest sticks I have ever seen used in any nest, not excepting eyries of the Golden Eagle. Unfortunately, a road wound by the nesting site, and the hawk was wantonly killed before she had succeeded in hatching her nestlings. She might easily have escaped when first startled from the nest, but was unwilling to forsake her eggs, and flew screaming in circles above them until she was shot. The victim was a fully adult female, and in life must have been a truly magnificent bird. Her tail was entirely snow-white except for a few small streaks of bright chestnut, and





ANOTHER VIEW OF NEST NO. 1 WITH NESTLINGS.

her legs and 'flags' were of the latter color barred with black. To the casual observer, the color of these parts will mark the chief difference between adult and immature birds. In first and second plumage, at least, the legs and thighs are of such pale buff as to appear white excepting in brilliant sunshine. Moreover, the tail of the young bird has four dark bars and is white for the basal half only, the terminal half being light slate color.

In May, 1905, a second pair of hawks constructed an eyrie in a cotton-wood tree about six miles from my Dawson County ranch. A shepherd who happened to camp with his sheep wagon at this place boiled and ate the three eggs, whereupon the disgusted birds deserted it. Yet a third pair nested upon a ledge of a high butte during 1908, when two eggs were laid, but the almost full-fledged young were discovered by some sheep shearers in July, who killed one and took the other captive. From three nests, therefore, no young birds were reared, and one adult was inexcusably sacrificed.

Last summer, Mr. W. R. Felton, an engineer of the Chicago, Milwaukee and Puget Sound Railway kept four nests of this hawk under observation for me, and visited them whenever his work of building a branch line between Lewiston and Great Falls allowed him time. These four nests were within a radius of four miles from the engineer's headquarters at the Square Butte Ranch, in Chouteau County, and others were reported seven miles away. Besides the above, Mr. Felton found four disused but well preserved eyries,— two of them within a quarter of a mile of an occupied nest. All eight nests were placed upon rocky ledges or points. They were constructed of the same materials, which consisted of sage brush and greasewood sticks, with some soapwood intermixed, and lined with dry cow manure. As will be seen from the measurements, the loose pile of sticks made the new nests remarkably high, but they settled considerably before the young had flown. A brief history of the four nests and their occupants condensed from Mr. Felton's notes follows: Nest No. 1, which was only two miles north of the Square Butte Ranch, and easily visible from there through powerful binoculars, was visited almost every day. This particular nest was picturesquely situated on a rocky point of the 'Chalk Cliffs' northeast of the geologically famous "Square Butte,"

which despite its modest name is an immense laccolith constituting an isolated spur of the Highwood mountains,— 2600 feet above the prairie. In reality the so called 'Chalk Cliffs' consist of an outcrop of white sandstone, chiefly in the centre of a range of grass-covered hills whose green summits rise in strong contrast above the white corrugated rocks. This sandstone stratum has been worn into a series of perpendicular cliffs, pure white above, but stained light brown below by lignitic matter and projecting spurs are carved into fantastic pinnacles and mounds. One promontory in particular is a regular sawtooth ridge. The nest here shown is poised upon the apex of a pillar which terminates a knife blade projection of 3537 feet elevation, and suggests in some photographs the prow of a ship. As there is a sheer vertical descent on three sides, and the surface of the connecting ridge suddenly breaks off leaving a wide fissure in the rock between it and the nest it is a task of no small difficulty to reach the latter and one best suited to a sailor or a cat. It can only be accomplished by approaching the eyrie from above, and then crawling along the ledge, when by dropping into and crossing the gap, which is well shown in the photograph, the nest can be attained. Mr. Felton, making light of the danger, climbed frequently to the nest, and made numerous exposures with a small Kodak, at the range of a few feet. The nest was four feet in height, and three and a half feet in diameter, and was higher than any Montana eyries of the Golden Eagle (*Aquila chrysaetos*) known to me, which species had also nested in the 'Chalk Cliffs.'<sup>1</sup> The hawks carried green alfalfa to the nest for decorative purposes, and Mr. Felton noticed a fresh supply there on three separate occasions. When found on May 18, the eyrie contained three newly hatched young, but only two reached maturity, as one of the nestlings disappeared on July 9, when fifty-two days old. Mr. Felton conjectured that it had been blown out of the nest by a violent thunder storm, but the two stronger birds might have ejected their weaker brother. In any event, the outcast would soon have been picked up by some four footed or winged marauder. The two remaining fledglings permanently

---

<sup>1</sup> In his recently published 'History of The Birds of Colorado,' Mr. W. L. Slater mentioned (p. 182) a Golden Eagle's nest which measured 'six feet in diameter and nine feet high.'





YOUNG FERRUGINOUS ROUGH-LEGS BEFORE THEY COULD FLY.



